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|-----------------|-------------|----------------------|---------------------|------------------|
| 09/657,616 | 09/08/2000 | HIROKATSU MIYATA | 35.C14776 | 2679 |

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| EXAMINER |
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VO, HAI

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| ART UNIT | PAPER NUMBER |
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1771

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/657,616

Applicant(s)

MIYATA, HIROKATSU

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-48 and 51-62 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 44-48, and 51-62 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 1771

1. All of the art rejections are maintained.
2. The double patenting rejections are maintained until the submission of the terminal disclaimer.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 44-48, 52, 54-62 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,546 in view of Kato et al (US 5,571,579) substantially as set forth in the 07/12/2005 Office Action.
5. Claim 51 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,546 in view of Kato et al (US 5,571,579) as applied to claim 44 above, further in view of Ozin et al (US 6,027,666) substantially as set forth in the 07/12/2005 Office Action.

6. Claim 53 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,564 in view of Mishina et al (US 5,350,539) substantially as set forth in the 07/12/2005 Office Action.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. Claims 44-48, 51, 52 and 54-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Kato et al (US 5,571,579) substantially as set forth in the 07/12/2005 Office Action.
9. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Mishina et al (US 5,350,539) substantially as set forth in the 07/12/2005 Office Action.

Response to Arguments

10. The double patenting rejections have been maintained for the following reasons.

Applicant argues that neither Kuroda nor Kato teaches or suggests the degree of orientation of the tubular pores. The examiner disagrees. Kuroda teaches the tubular mesopores are aligned uniaxially wherein the longitudinal axis of the mesopore extends along a surface of the polymeric film. That is exactly the same

orientation of the tubular pores disclosed in the present invention. Therefore, it is not seen that the mesopores of Kuroda could have shown a different X-ray diffraction with respect to the dependency of the (110) plane diffraction intensity on the in-plane rotation angle. Accordingly, the Gaussian profile with a half width distribution of orientation of direction would be inherently present. The recitation "full width at a half maximum of the normal distribution being about 35° or less" means that the full width at a half maximum of the normal distribution could be 0°. As such, this limitation is not necessarily required by the claims.

11. The art rejections over Ozin in view of Kato or Mishina have been maintained for the following reasons. Applicants argue that the combined teachings of the prior art do not teach the feature that full width at a half maximum of the normal distribution is about 35° or less. The arguments are not found persuasive for patentability because the recitation "being about 35° or less" means that the full width at a half maximum of the normal distribution could be 0°. However, such a limitation is not presently claimed. Further, the combined teachings of Ozin with the secondary reference achieve a mesostructured material of the claimed invention. The resulting mesostructured material comprises a first portion containing a polyimide, and a second portion formed on the first portion, wherein the second portion has tubular pores which are aligned uniaxially and extend alongside a boundary surface between the first portion and the second portion. The polyimide has sequence of two or more adjacent methylene groups in a

Art Unit: 1771

repeating unit present in a main chain or a side chain of the polyimide and the polyimide chains are oriented. Accordingly, the art rejections are sustained.

In view of Applicants' arguments and exhibits filed on 10/17/2005, it is recognized that the Ozin '666 patent does not teach the feature that full width at a half maximum of the normal distribution is from 12° to 35° . Although the experimental conditions of the paper "Free-standing mesoporous silica film; morphogenesis of channel and surface patterns" J. Mater. Chem, 1997, 7(9), 1755-1761 attached as Exhibit 2 are slightly different from those of the Ozin '666 patent, this does not influence the resulting orientation of the pores and film formed in the Ozin '666 patent. The examiner absolutely agrees with Applicants because at column 2, lines 15-25, Ozin '666 shows that the films prepared from the experimental conditions very similar to those disclosed in the paper "Free-standing mesoporous silica film; morphogenesis of channel and surface patterns" have channels running parallel to the surface. Therefore, it is true that the slight difference in the experimental conditions does not influence the resulting orientation of the pores and film formed in the Ozin '666 patent. Likewise, the film formed in the Ozin '666 patent is the same as the film disclosed in the paper. The paper shows that the channels contained within each domain are oriented parallel to the film surface. However, the channels do not exist in a uniform collinear arrangement within the domains (page 1756, right column, lines 4-9). As such, the film of the paper as well as the film of the Ozin '666 patent would not have a full width at a half maximum of the normal distribution about 12 to 35°

Art Unit: 1771

as the film of the present invention. It is suggested that that limitations need to be incorporated into the claims to render the instant claims unobvious over the prior art.

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Friday, from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax

Art Unit: 1771

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV



HAI VO
PRIMARY EXAMINER